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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,247	10/11/2000	Leonel Ernesto Enriquez	50089(SE1579)	6976

7590 09/15/2003

Christopher F Regan Esquire
Allen Dyer Doppelt Milbrath & Gilchrist P A
P O Box 3791
Orlando, FL 32802-3791

EXAMINER
PHAM, TUAN

ART UNIT	PAPER NUMBER
2643	3

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/686,247	ENRIQUEZ, LEONEL ERNESTO	
	Examiner	Art Unit	
	TUAN A PHAM	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou (U.S. Patent No.6,219,417) in view of Youngblood (U.S. Patent No.6,137,189).

Regarding claim 1, Zhou teaches plurality of respectively different circuits of a multifunction circuit arrangement to perform its respective signaling function (see figure 2, SLIC 202, col.2, ln.21), each respectively different circuit requiring use of the same type of external circuit component to implement its respective signaling function, (see figure 2, SLAC 206, col.2, ln.31-33) the method comprising the steps of:

providing a single external circuit component that corresponds to the same type of external circuit component (see figure 2, SLIC 202, SLAC 206, col.2, ln.21, col.2, ln.31-33, col.4, ln.28-29); and

in association with performance of each respectively different circuit function of the multifunction circuit arrangement (see figure 2, line card 120, col.1, ln.46),

coupling the single external circuit component to the one of the plurality of respectively different circuits, while decoupling the single external circuit component from the one or more others of the plurality of respectively different circuits (see figure 2, SLIC 202, SLAC 206, col.2, ln.21, col.2, ln.31-33, col.4, ln.28-29).

It should be noticed that Zhou fails to clearly teach a enabling the plurality of respectively different circuits which performs the each circuit function, while selectively disabling one or more others of the plurality of respectively different circuits which do not perform the each circuit function. However, Youngblood teaches such features (see figure 5, SLIC 10, col.3, ln.20-26) for a purpose of reducing cost and reducing the amount of heat in the line card.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of enabling the plurality of respectively different circuits which performs the each circuit function, while selectively disabling one or more others of the plurality of respectively different circuits which do not perform the each circuit function, as taught by Youngblood, into view of Zhou in order to independently process signals on each circuit for particular services.

Regarding claim 2, Youngblood further teaches a method coupling the single external circuit component to the one of the plurality of respectively different circuits through a selectively controlled switching circuit having a plurality ports respectively coupled to the plurality of respectively different circuits, and a component-coupling port coupled to the single external circuit component (see col.3, ln.20-25, col.4, ln.28-30).

Regarding claim 3, Youngblood further teaches a method comprises controllably enabling that one of the plurality of respectively different circuits which performs the each circuit function by means of a differentially coupled transistor circuit (see figure 5, switch 14a, 14b, col.3, ln.20-26).

Regarding claim 4, Zhou further teaches a method wherein the multi-function circuit arrangement comprises a telecommunication circuit card and the plurality of respectively different circuits include two or more of a polarity reversal detection circuit, a ring-trip circuit, and a line voltage measurement circuit, and wherein the same type of external circuit component comprises a capacitor (see figure 3 and 4, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57).

Regarding claim 5, Zhou further teaches a method wherein during operation of each of the ring-trip circuit and the line voltage measurement circuit, comprises enabling the polarity reversal detection circuit, so that tip and ring terminals of the telecommunication circuit will be supplied with a required polarity voltage, and comprises decoupling the single external circuit component from the polarity reversal detection circuit (see figure 3 and 4, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57).

Regarding claim 6, Zhou further teaches a method includes continuously enabling the polarity reversal detection circuit irrespective of whether the polarity reversal detection circuit is to be coupled with the capacitor, but selectively enabling only that one of the ring-trip circuit and the line voltage measurement circuit that is to be coupled with the capacitor (see figure 3 and 4, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57).

Regarding claim 7, Zhou further teaches a method, wherein the multi-function circuit arrangement comprises a telecommunication circuit card and the plurality of respectively different circuits include two or more of a polarity reversal detection circuit,

a ring-trip circuit, and a line voltage measurement circuit, the same type of external circuit component comprises a capacitor, and wherein the polarity reversal detection circuit is coupled to a first one of said plurality of ports of the controlled switching circuit, and the ring-trip circuit and the line voltage measurement circuit are coupled to respective and second and third ones of said plurality of ports of the controlled switching circuit, that are intermediate the first one of the plurality of ports and said component-coupling port (see figure 3 and 4, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 8, Zhou teaches a plurality of respectively different circuits of a multi-function circuit device to perform its respective signaling function (see figure 2 and 3, line card 120), each respectively different circuit requiring use of the same type of external circuit component to implement its respective signaling function (see figure 2, SLAC 206, comprising:

a single connection terminal adapted to coupled to a single external circuit component that corresponds to the same type of external circuit component (see figure 3).

It should be noticed that Zhou fails to clearly teach a circuit interconnection arrangement which is operative, in association with performance of each respectively different circuit function of the multi function circuit device, to enable that one of plurality of respectively different circuits which performs the each circuit function, and to selectively disable one or more others of the plurality of respectively different circuits which do not perform the each circuit function, and to couple the single external circuit

component to the one of the plurality of respectively different circuits, while decoupling the single external circuit component from the one or more others of the plurality of respectively different circuits. However Youngblood teaches such features (see figure 5, SLIC 10, col.3, ln.20-25) for a purpose of reducing cost and reducing the amount of heat in the line card.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a circuit interconnection arrangement which is operative, in association with performance of each respectively different circuit function of the multi function circuit device, to enable that one of plurality of respectively different circuits which performs the each circuit function, and to selectively disable one or more others of the plurality of respectively different circuits which do not perform the each circuit function, and to couple the single external circuit component to the one of the plurality of respectively different circuits, while decoupling the single external circuit component from the one or more others of the plurality of respectively different circuits, as taught by Youngblood, into view of Zhou in order to independently process signals on each circuit for particular services.

Regarding claim 9, Youngblood further teaches an apparatus, wherein the circuit interconnection arrangement includes a selectively controlled switching circuit having a plurality ports respectively coupled to plurality of respectively different circuits, and a component -coupling port coupled to the single external circuit component, and which is operative to couple the single external circuit component to the one of the plurality of respectively different circuits (see figure 3, control circuit 18, col.3, ln.20-25).

Regarding claim 10, Youngblood further teaches an apparatus, wherein the circuit interconnection arrangement includes a plurality of differentially coupled transistor circuits, which are coupled to the plurality of respectively different circuits that perform the respectively different circuit functions, and which are operative to selectively enable or disable the respectively different circuits (see figure 5, switch 14a,14b, col.3, ln.20-25).

Regarding claim 11, Zhou further teaches an apparatus, wherein the multi-function circuit arrangement comprises a telecommunication circuit card and the plurality of respectively different circuits include two or more of a polarity reversal detection circuit, a ring-trip circuit, and a line voltage measurement circuit, and wherein the same type of external circuit component comprises a capacitor (see figure 3 and 4, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 12, Zhou further teaches an apparatus, wherein during activation of each of the ring-trip circuit and the line voltage measurement circuit, the circuit interconnection arrangement is operative to enable the polarity reversal detection circuit, so that tip and ring terminals of the telecommunication circuit will be supplied with a required polarity voltage, and to decouple the single external circuit component from the polarity reversal detection circuit (see figure 3 and 4, col.1, ln.23, col.1, ln.65-67, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 13, Zhou further teaches an apparatus, wherein the circuit interconnection arrangement is operative to continuously enable the polarity reversal

detection circuit irrespective of whether the polarity reversal detection circuit is to be coupled with the capacitor, and to selectively enable only that one of the ring-trip circuit and the line voltage measurement circuit that is to be coupled with the capacitor (see figure 3 and 4, col.1, ln.23, col.1, ln.65-67, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 14, Zhou further teaches an apparatus, wherein the multi-function circuit device comprises a telecommunication circuit card and the plurality of respectively different circuits include two or more of a polarity reversal detection circuit, a ring-trip circuit, and a line voltage measurement circuit, the same type of external circuit component comprises a capacitor, and wherein the polarity reversal detection circuit is coupled to a first one of the plurality of ports of the controlled switching circuit, and the ring-trip circuit and the line voltage measurement circuit are coupled to respective and second and third ones of the plurality of ports of the controlled switching circuit, that are intermediate the first one of the plurality of ports and the component-coupling port (see figure 3 and 4, col.1, ln.23, col.1, ln.65-67, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 15, Zhou teaches a method of a plurality of respectively different circuits of a multifunction circuit card to perform its respective signaling function (see figure 2 and 3, line card 120), the plurality of respectively different circuits including a polarity reversal detection circuit, a ring-trip circuit, and a line voltage measurement circuit, and wherein each respectively different circuit requires the use of an external

capacitor to implement its respective signaling function (see figure 3 and 4, col.1, ln.23, col.1, ln.65-67, col.2, ln.12, col.2, ln.53-54, col.5, ln.57), the method comprising

providing a single connection port that is adapted to be coupled to the external capacitor (figure 1, capacitor 104, col.1, ln.23);

in association with performance of each respectively different circuit function of the multi-function circuit arrangement (see figure 2, line card 120),

coupling the single external capacitor to the one of the plurality of respectively different circuits, while decoupling the single external capacitor from the one or more others of the plurality of respectively different circuits (figure 1, capacitor 104, col.1, ln.23,).

It should be noticed that Zhou fails to clearly teach enabling the plurality of respectively different circuits which performs the each circuit function, while selectively disabling one or more others of the plurality of respectively different circuits which do not perform the each circuit function. However, Youngblood teaches such features (see figure 5, SLIC 10, col.3, ln.20-26) for a purpose of reducing cost and reducing the amount of heat in the line card.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of enabling the plurality of respectively different circuits which performs the each circuit function, while selectively disabling one or more others of the plurality of respectively different circuits which do not perform the each circuit function, as taught by Youngblood, into view of Zhou in order to independently process signals on each circuit for particular services.

Regarding claim 16, Zhou further teaches a method, wherein a coupling said single external capacitor to the one of the plurality of respectively different circuits through a selectively controlled switching circuit having a plurality ports respectively coupled to the plurality of respectively different circuits, and a component-coupling port coupled to the single external capacitor (see figure 1-3, capacitor 104, line card 120, col.5, ln.8-10).

Regarding claim 17, Youngblood further teaches a method comprises controllably enabling that one of the plurality of respectively different circuits which performs the each circuit function by means of a differentially coupled transistor circuit (see figure 5, switch 14a,14b, col.3, ln.55-58).

Regarding claim 18, Zhou further teaches a method, wherein during operation of each of the ring-trip circuit and the line voltage measurement circuit, comprises enabling the polarity reversal detection circuit, so that tip and ring terminals of the telecommunication circuit will be supplied with a required polarity voltage, and decoupling the single external capacitor from the polarity reversal detection circuit (see figure 3 and 4, capacitor 104, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 19, Zhou further teaches a method enabling the polarity reversal detection circuit irrespective of whether the polarity reversal detection circuit is to be coupled with the capacitor, but selectively enabling only that one of the ring trip circuit and the line voltage measurement circuit that is to be coupled with the capacitor (see

figure 3 and 4, capacitor 104, col.1, ln.23, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Regarding claim 20, Zhou further teaches a method, wherein the polarity reversal detection circuit is coupled to a first one of the plurality of ports of the controlled switching circuit, and the ring-trip circuit and the line voltage measurement circuit are coupled to respective and second and third ones of the plurality of ports of the controlled switching circuit, that are intermediate the first one of the plurality of ports and the component-coupling port (see figure 3 and 4, col.2, ln.12, col.2, ln.53-54, col.5, ln.57, col.5, ln.7-11).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Eriksson et al. (U.S. Patent No. 6,148,076), and Israelsson et al. (U.S. Patent No. 6,542,605) are not applied into this Office Action, they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for a method and an arrangement for controlling the operating mode of a subscriber line interface circuit.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987 and E-mail address: **tuan.pham13@USPTO.GOV.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and

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BINH TIEU
PRIMARY EXAMINER

Art Unit 2643

Date: September 4, 2003